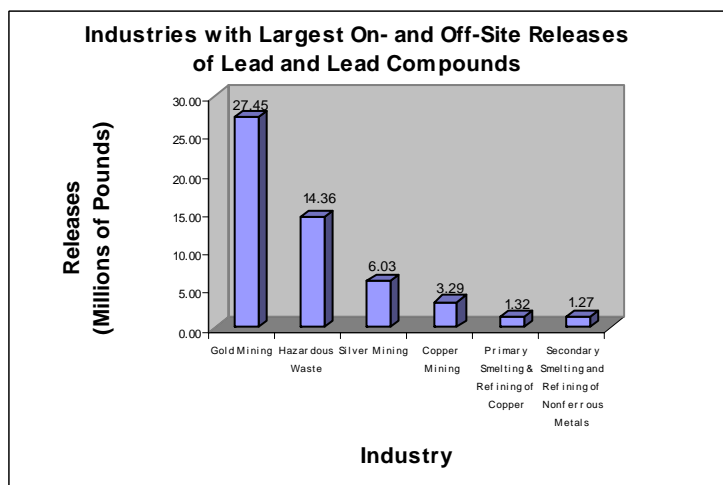




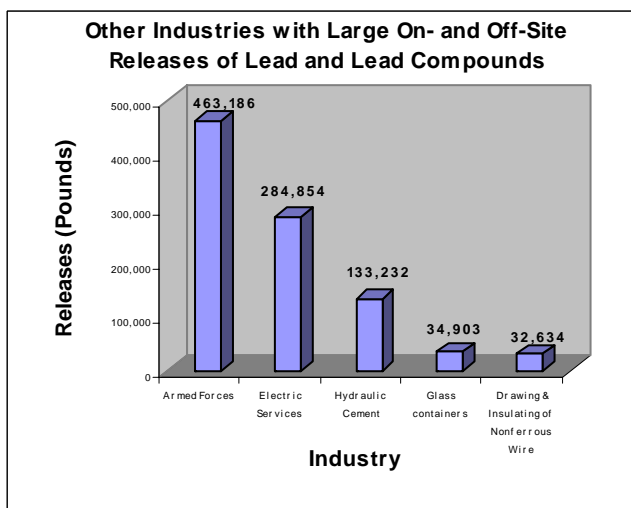
Lead and Lead Compounds Report: 2003 Toxics Release Inventory

U.S. EPA Region 9
Arizona, California,
Hawaii, Nevada, the
Pacific Islands, and
Tribal Nations

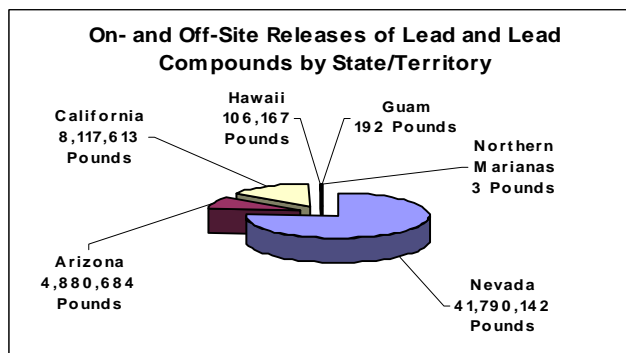
A)



B)



C)



The 2003 Data for Lead and Lead Compounds

EPA has made public the 2003 data on toxic chemicals that were released* to the air, water and land within the Pacific Southwest Region. This information comes from the Toxics Release Inventory (TRI), a federal community right-to-know program.

In the year 2000, TRI was expanded to include additional persistent, bioaccumulative and toxic (PBT) chemicals and required reporting for these chemicals at lower thresholds, ranging from 0.1 grams to 100 pounds. PBT pollutants are toxic chemicals that persist in the environment and bioaccumulate in food

*Release is defined as the amount of a toxic chemical released on-site (to air, water, underground injection, landfills and other land disposal), and the amount transferred off-site for disposal.

chains, thus posing risks to human health and ecosystems.

Starting in the year 2001, lead and lead compounds were reported as persistent, bioaccumulative and toxic (PBT) chemicals. While lead and lead compounds have been on the list of reportable chemicals since 1987, for the year 2001 the reporting threshold was drastically lowered (from 25,000 pounds manufactured or processed, and 10,000 pounds otherwise used to 100 pounds manufactured, processed, or otherwise used). As a result, additional facilities are required to report releases of lead and lead compounds.

A Note on Risk

It is important to note that releases should not be directly equated with risk. To evaluate risk, release data must be combined with information about chemical toxicity, site-specific conditions, and exposure. In addition, these data do not indicate whether a facility is violating environmental laws. Many of the substances reported through this program are subject to state and federal regulations designed to protect human health and the environment.

Industries

A facility is subject to TRI reporting requirements if it: has 10 or more full-time employees; is classified under a reportable Standard Industrial Classification (SIC) code; and manufactures, processes, or otherwise uses any of the listed toxic chemicals in amounts greater than the threshold quantities. For most chemicals (excluding PBTs) the thresholds are 25,000 pounds manufactured or processed, and 10,000 pounds otherwise used.

Manufacturing industries have been reporting their releases since 1987, and federal facilities started reporting in 1994. In 1998, an additional seven industry sectors began reporting their toxic chemical releases. These sectors are metal and coal mining, electricity generation, commercial hazardous waste treatment, solvent recovery, petroleum bulk terminals, and wholesale chemical distributors.

Releases

As shown in Table 1, there was an overall 33% increase in on- and off-site releases of lead and lead compounds for the year 2003.

Table 1
On and Off-Site Releases

Release Media	Reporting Year		Percent Change
	2002	2003	
Air	66,627	57,921	-13
Land	39,624,020	53,112,142	34
Water	1,740	1,190	-32
Undg Inj *	97	9	-91
Off-Site	1,580,862	1,723,439	9
Total	41,273,346	54,894,701	33

* Underground Injection

The increase in total releases is largely attributable to increases of land releases by four mining facilities in Nevada. The increases ranged from about 2 to 4 million pounds each, with Barrick Goldstrike Mines reporting the top increase of 4 million pounds. Additionally, US Ecology Nevada and Chemical Waste Management reported increases totaling 8.5 million pounds to permitted hazardous waste landfills.

In a state-by-state comparison for reporting year 2003, Nevada, California, Arizona, and Hawaii ranked 3, 6, 13, and 45 respectively for total on- and off-site releases of lead and lead compounds. Alaska ranked number 1, reporting nearly 180 million pounds of on and off-site releases of lead and lead compounds.

Table 2
Lead and Lead Compound Releases (in pounds)
by State or U.S. Territory

State	Air	Land	Under-ground Injection	Water	Off-Site
Arizona	30,360	4,725,427	0	11	124,587
California	17,486	6,513,196	5	1,091	1,585,836
Hawaii	5,096	95,738	4	21	5,208
Nevada	4,796	41,777,471	1	66	7,808
Guam	182	10	0	1	0
Northern Marianas	2	2	0	0	0

Reporting Industry Sectors – the 2003 Data

A review of the TRI data shows that among the TRI-regulated industry sectors, gold ore mining is the largest contributor of lead and lead compound releases in the Region. This industry sector accounts for 50% of the Region 9 total. Furthermore, the combined gold, copper and silver ores mining industries account for 67% of the Region 9 total. The primary metals industry and hazardous waste refuse systems are also large contributors.

Table 3**Lead and Lead Compound Releases (in pounds)
by Industry Sector**

Industry	Air	Land	Water	Off-Site
Gold Mining	991	27,446,912	75	2,646
Hazardous Waste	378	14,159,496	0	201,636
Silver Mining	824	6,024,661	0	0
Copper Mining	19,590	3,267,404	8	3,198
Primary Smelting and Refining of Copper	8,550	1,309,307	0	38
Secondary Smelting and Refining of Nonferrous Metals	2,028	0	13	1,260,117
Armed forces	3,053	459,186	1	946
Electric Services	7,225	269,725	2	7,899
Hydraulic Cement	1,229	131,842	161	0
Glass Containers	1,252	0	0	33,651

Metal Mining

Lead is present in gold, silver and copper ores. In Region 9, there are 27 facilities in the gold, silver and copper industries that collectively reported nearly 37 million pounds of releases of lead and lead compounds.

Primary and Secondary Smelting of Copper and Nonferrous Metals

Primary and secondary smelting and refining of non-ferrous metals may utilize scrap metal feed containing lead compounds. In Region 9, 17 facilities reported nearly 2.6 million pounds of lead and lead compound releases.

Refuse Systems

This industry includes hazardous waste treatment and disposal and material recovery facilities. A total of 13 hazardous waste facilities reported disposing of over 14 million pounds of lead and lead compounds into permitted hazardous waste landfills.

Table 4**Top Region 9 Counties for On-Site Releases**

County	Land	Air	Water
Elko, NV	10,336,608	204	0
Humboldt, NV	9,028,926	353	66
Nye, NV	8,636,793	291	0
Pershing, NV	6,357,879	829	0
Kings, CA	5,958,884	99	0
Eureka, NV	4,600,001	338	0
Gila, AZ	2,175,837	26,917	0
Lander, NV	2,153,155	50	0
Pima, AZ	1,510,055	126	0
Pinal, AZ	766,569	109	8

Table 5**Top Facilities for Total On- and Off-Site Releases**

Facility Name	City, State	Pounds Released
Barrick Goldstrike Mines, Inc	Elko, Nevada	10,298,024
US Ecology Nevada, Inc.	Beatty, Nevada	7,937,962
Newmont Mining Corp. Twin Creeks Mine	Golconda, Nevada	6,480,469
Coeur Rochester, Inc.	Lovelock, Nevada	6,020,475
Chemical Waste Management	Kettleman City, California	5,959,125
Newmont Mining Corp. Carlin South Area	Carlin, Nevada	4,600,339
Cortez Gold Mines	Crescent Valley, NV	2,148,195
Newmont Mining Corp. Lone Tree Mine	Valmy, Nevada	1,550,172
Asarco Inc. Ray Complex Hayden Smelter and Concentrator	Hayden, AZ	1,317,895
Quemetco Inc.	City of Industry, CA	1,225,608

On-line Access

For national information on data releases, see:

<http://www.epa.gov/tri>

The TRI data is available through Envirofacts Warehouse, EPA's premier internet site for distributing environmental information at:

<http://www.epa.gov/enviro>

or the TRI Explorer tool:

<http://www.epa.gov/triexplorer>

For general information on the Toxics Release Inventory, including reporting requirements for businesses, go to:

<http://www.epa.gov/region09/toxic/tri>

For more information on the EPA's PBT Chemicals Program, go to:

<http://www.epa.gov/opptintr/pbt/>

Information and Assistance

Region 9 staff will answer questions and assist you in learning more about the TRI Program in Region 9.

U.S. EPA Region 9
Nancy Sockabasin, TRI Coordinator
(415) 972-3772